We Claim:

1. A method for simulating events comprising the steps of:

assigning events to be simulated to each of N processing elements (PEs);

5   and

said N PEs simulating events in parallel, in a simulation step where each processing element (PE) simulates assigned events in blocks of M edge events, where M is approximately $e \log_e N$, and an edge event is an event whose simulation in a processing element is directly affected by information originating

10   in another processing element.

2. The method of claim **1** where each of said simulation steps comprises one or more iterations.

15   **3.** The method of claim **2** where each iteration comprises a simulation phase followed by a communication phase and an assessment phase.

4. The method of claim **3** where, in each communication phase, each of said PEs shares information with one or more other PEs from said N PEs, which

20   information is needed by said other PEs to simulate edge events of said other PEs.

5. The method of claim **4** where said information shared by each PE in a communication phase of an iteration is related to events simulated by said each

25   PE in said iteration.

6. The method of claim **4** where said assessment phase carried out by each of said PEs comprises the steps of

determining whether the existence of a simulation error can be excluded,

30   and

● ● .

directing that another simulation iteration is to take place when the existence of a simulation error cannot be excluded.

7. The method of claim **6** further comprising a floor advancement step, carried out when said step of determining, carried out in all of said PEs, excludes existence of a simulation error in a simulation iteration, that advances a simulation floor time of a present simulation step to form a modified simulation time floor, for simulating another block of M events in a next simulation step.

8. The method of claim **6** further comprising a step of advancing a simulation floor time from a simulation floor time of a present simulation step, to form a modified simulation floor time, for starting from said modified simulation floor time the simulation of another block of M events in a next simulation step, when said step of determining, carried out in all of said PEs, excludes the existence of a simulation error in said present simulation step.

9. The method of claim **8** where said modified simulation floor time corresponds to the earliest simulation time of the Mth edge event simulated by said N PEs in said present simulation step.

10. The method of claim **4** where events are simulated seriatim in each simulation phase.

11. The method of claim **10** where for simulating a second event following a simulation of a first event,

a time interval is identified between a simulation time of said first event and a simulation time of said second event, and

said second event is identified for simulation.

12. The method of claim **11** where said second event is identified for simulation following a step of accounting for simulation of said first event and simulation of events in said other PEs from said N PEs.

13. The method of claim **12** where said accounting is based on present knowledge of states of said other events.

14. The method of claim **12** where said accounts for simulation of events in said other PEs from said N PEs accounts for events simulated during said time interval.

15. The method of claim **11** where said second event is identified by employing a first random number.

16. The method of claim **11** where said time interval is identified with a second random number.

17. The method of claim **16** where said second random number is set to said first random number.

18. The method of claim **15** where said first random number is derived from a random variable having a uniform distribution.

19. The method of claim **15** where the seriatim simulation of each event in said block of M events, in a first iteration starting from a given simulation floor time, employs an independently derived random number from said random variable, forming thereby a sequence of random numbers, and simulation of said block of M events in all subsequent iterations starting from said given simulation floor time employs said sequence of random numbers.

20. The method of claim **18** where the sequence of random numbers employed in one simulation step is different from a sequence of random numbers employed in another simulation step.